B. Crop Distributions

FIELD CROPS

CEREALS - WHEAT and BARLEY (*Qamh and Xghir*)

As the land use maps show (Figs. 71 and 72), cereals are grown in all regions of the Islands. Of the grains, wheat and barley alone are of importance. Some maize and millets are still grown and a few fields of sown oats were observed. *Mixta* - a mixture of wheat and barley - is now rare, although self-seeding produces some mixtures difficult to distinguish except by close examination. The practice of sowing spoilt or 'bottom of the bag' grain on odd patches of soil that would otherwise bear nothing also produces unexpected results. 311* 243

Many different varieties of wheat and barley are grown - naked and bearded, short and long-awned, with short, stiff and long, weak culms. So-called 'Maltese' varieties such as *Qamh ta'Susa* and *ta'Bla Sifa*, have little homogeneity except that the wheats are all hard, bearded types. Introductions are mainly of durums from Canada. The local barleys are poor in type - short-eared, small-grained, 'dry' varieties, although the poor results are obviously partly explained by their use for cropping the harsher lands. The new barleys are also mainly of North American origin and selected for early maturation. This latter characteristic is especially of value in an environment in which barley may dry and shatter rather than ripen - this has been observed even as early as March. In so far as barley is a residual land crop, however, then innovated varieties would seem to be difficult to establish and popularise - especially since the farmers on the poorest land are the least able to indulge in experiment. [197]

That the importance of cereal cultivation remains so great, in spite of growing dependence on imported bread grains, seems strange at first sight. Information supplied by local mills suggests that human consumption of local cereals is very small, but quantitative estimates cannot accurately be made at present. Little is known of the relative importance of domestic subsistence on the farmers' own grain crops. Davy, in 1842 (1), and witnesses before the Royal Commission of 1911 maintained that production was mainly for domestic consumption. This is still obviously true for some vegetable crops and poultry but, in the present period of continued transition from peasant farming towards commercial farming, is difficult to evaluate for cereal production. For general purposes we may however presume the validity of the assumption that Maltese-grown grains have become less important for human food. No significant amount, it is generally agreed, is used for distilling and brewing. The former is severely restricted by law, and the latter by the general unsuitability for malting - unevenness of sample is a major difficulty - of local barley. For use there then remains only production for livestock fodder - particularly for horses and cattle, although the value of a grain ration for pigs is becoming more apparent with the introduction of better breeds such as the Large White. Given this situation, the comparative ease of grain-growing in the usual rotations practised, and the difficulty of finding alternative crops for some hardland areas, results in the survival of what has been called *grande culture* - land use of which would seem to be, in many regions at least, unnecessarily extensive.

The matter of rotation is fairly simple. Debono (2), in 1911, pointed out that, after previous manuring and vegetable growing - 'there is only the sowing and the crop comes by itself. So that whether there be duty or no duty, wheat will always be cultivated here in Malta, unless there is a revaluation in the rotation of crops'. A contemporary example may be taken from a farm at Iad-Dahla. On the poorer land, wheat is grown alternate years with sulla. On the better land, potatoes and vegetables are the main crops and wheat, sown incidentally as a rotation crop, then gives yields of 25-28 cwt. per acre - double that on the other fields. Any change in the proportion of wheat to other crops under this system of farming could only be a consequence of an agricultural revolution. 241 242

More complex is the importance of the grains as hardland crops. Basically, wheat and barley are dry farming crops in Malta. Without irrigation, even away 243 311*

[TEXT CONTINUES ON P. 197]

1: Bowen-Jones et al. K-5 (1955-1958) 1961

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Malta

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[p. 196-A]

Fig. 71 Malta: Land Use Survey:

1: Bowen-Jones et al. K-5 (1955-1958) 1961

EZ6 Malta EZ6

Malta

*311
102
243

Fig. 71

[p. 196-B]

1: Bowen-Jones et al. K-5 (1955-1958) 1961
EZ6 Malta EZ6

from the *terre accidentée* which borders the Wied Incita and the Wied il-Kbir, the light Globigerina soils can only well support the grains and sulla. Even more striking is the fact that both in areas where irrigation water is comparatively abundant, as in the Wied l-Iemu (south-west of Rabat), and on the relatively deep and fertile soils of the Bingemma Lowlands and the Wied il-Ghasel, wheat and barley are treated as crops which make little demand on water, manure and tillage and therefore they are to be found in the same environments as intensive market gardening. On the bleaker or less well mantled hillsides, barley, patch sown between rock outcrops, or regarded as a catch crop gamble, usually becomes supreme. It is the more surprising therefore that average yields are relatively high (wheat and barley 22.4 bushels per acre for the decennial period 1949-58). It is doubtful however whether any but a small fraction of the hardland crop yields are represented in statistical returns, particularly since much of these crops are individually inter-cultivated with other crops such as peas and vetches. Even on good land, a considerable total acreage of cereals must avoid statistical measurements - the narrow boundary demarcation hedges of barley in the Wied tal-Pwales and the windbreak ridges of wheat near Ghajn Tuffieha.

Moreover, and here appears the crux of the matter, most of the poor grain crops and a large proportion of others are pulled green for fodder rather than threshed for grain. This is true not only of *Ferrana* - green barley - but also of much of the wheat. This use of the cereals as grain and 'hay' crops give them an extra value in that land under wheat and barley is not necessarily unusable for other crops for the full life cycle of the grains. The danger here lies in the deprivation of the soil of a great deal of organic matter that might be more profitably used for other crops given a revaluation of rotations, and in the encouragement of soil blowing, particularly in the windy Spring months, by the removal by pulling of the whole plant. Stubble-mulch farming so often associated with the 'Ard' is by no means general in Malta.

As shown in Fig. 71, in Malta, only in the high-value heavily irrigated Wied tal-Pwales are the cereals other than dominant. Other points of significance are best examined regionally (see Chapter VIII). In Gozo (Fig. 72), wheat and barley predominate on the most level Globigerina platforms lying below the sulla-clad clay slopes. They are unimportant only in the tree-crop zone north of Nadur.

The differentiation between cultivation of barley and wheat in general is essentially one between hardy and less hardy grain types.

FODDERS AND FORAGES

Sulla, green barley, vetches, lucerne, chickpeas, the 'caterpillar plant' (*Widna*) and broad beans are the main forage crops. The leguminous character of all the forages, excepting barley, is worthy of note, and of the herbs gathered as 'wild' hay, by far the greatest number also are leguminous, including among their number many species of *Medicago*.

In the cultivation and use of these fodder crops, there are several features which are peculiar to the Maltese Islands and which deserve close attention. In the first place, all the forages, including sulla which is a true perennial, are grown strictly as annuals in close rotations of the types exemplified in the section on Husbandry (Chapter X C). They are all capable of rapid maturation into 'hay'. This situation is a natural consequence of the virtually unique historical *creation* of most of the tillable land in response to population pressure. All land which is cultivable has to bear at least three crops every two years, and in many cases five or six. Land which is not cultivable is karst; bare, calcareous rock interspersed with small soil pockets and crevices. There is very little land which can be put under perennial pastures or grasses that is not already carrying a close sequence of soil-building and soil-exhausting crops. The introduction of perennials into a system such that, even in the dry-farming regions, there is remarkable diversification would be as revolutionary as the displacement of leguminous forages by other types.

Secondly, fodders are almost invariably cut green or as hay crops and stall-fed to livestock. The peripatetic herds of goats and sheep which live on the rock

[TEXT Continues on P. 199]

1: Bowen-Jones et al. K-5 (1955-1958) 1961
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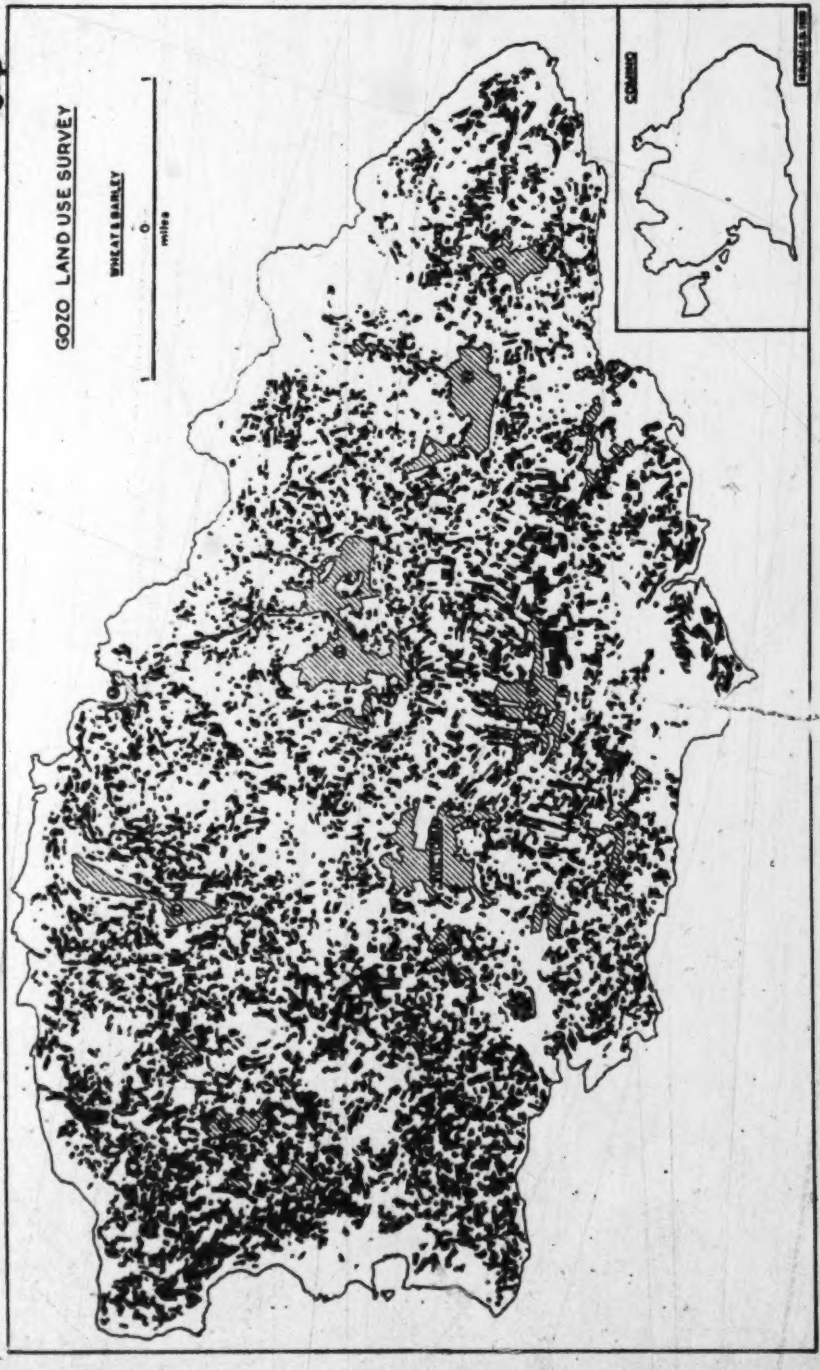

Fig. 72 Gozo: Land Use Survey: Wheat and Barley.

B. Cultivation Equipment and Tillage

Of the implements observed in Malta, the traditional types of plough, hoe, sickle and harrow are of the same genera as those to be generally found in the Mediterranean region (Fig. 140).

Ploughs are of the *Aratrum* or *Ard* type, steel tipped wooden wedges, devoid of cutting edges and having very restricted powers of furrow making or inversion - *moltriel*. None of those observed had lateral 'ears' or 'wings' but apparently ards thus equipped are occasionally used. There are various sub-types with differing arrangements of beam, body and handle but no constant rational relationship between these sub-types and local environments could be observed. Prices range upwards of £4 10s. 0d. Iron or steel tips for the body cost about £1. One interesting modification of the plough is manufactured at Żurrieq. On top of the basic beam and body is fitted a movable double mouldboard of which either or both breasts can be brought into operation at any one time. Ridging and left and right furrow inversion are therefore made possible. For those areas where furrow inversion is practicable such a cheap, light multi-purpose implement would be very valuable, and the development of such improvements might well be encouraged by official approbation.

Hoes are manufactured in four main types. The heavy spade type, the *Łappuna*, is generally used for soil trenching in preparation for manuring. The effort involved tends to restrict its use. The small, single tined, wedge-shaped hoe, the *Mgħazqa* or *Lexxuna*, is a general purpose implement that is replaced under damp and cohesive soil conditions by a forked, two-tined variety, the *Kroxun*. A three-tined hoe is often used, together with the ard, for potato lifting. In general, each cultivator possesses a selection of different types of hoe, necessitated by the variety of manual operations he usually has to perform and made possible by the reasonable prices of the implements (prices range from about 16s. for the single-tine, to 18s. to £1 for the spade hoe).

The sickle in general use is a small, smooth-edged type costing about 12s. 6d. The small number of sickle types observed may result from the widespread practice of pulling rather than cutting green fodder. Traditional harrows are almost invariably of the Mediterranean and Asiatic type, harrows cum levellers and seed coverers. Those observed were triangular and stone weighted. When manufactured for the purpose they were usually constructed of ash and had removable tines. Without metal tines, the cost is about 50s.

These implements, of which illustrated examples are given (Fig.140), have already to some extent been displaced by imported newer types. Most farmers who possess fields which are at all accessible to tractors now periodically hire contractors to plough the land with mouldboard or disc ploughs and even, in some areas, with deep digger-ploughs. Where plots are small or the terrain difficult, then rotary cultivators are hired or purchased. These latter machines, in spite of their relatively high cost - usually over £200 in Malta - are amazingly popular and are more and more replacing the *ard* and the hoe. The reasons for, and implications of this popularity are examined below.

The spade proper is hardly ever used, and its absence is associated with the reasons for the survival of the *ard* plough. Small, light, flexible, metal harrows are to be found. Entirely imported, their only advantages are their flexibility on rough ground and ease of draught. They are, on the other hand, more easily damaged and more difficult to repair than their wooden prototypes. Other equipment includes a great range of fixed and movable adjuncts to farming, all but one class of which are constructed rurally from local materials. The exceptional group is that connected with irrigation and includes windpumps and small diesel engines. Threshing and winnowing, traditional style, needs no more than a rock or *lorbe* (beaten earth) floor and asses or horses for trampling, baskets constructed of local cane, and simple wooden winnowing forks. Of recent years, centralised threshing by contractors' machines has almost entirely displaced the older method in all but the more remote western regions. Canes, grown in slightly marshy conditions in wied floors, provide the raw material for wind breaks, covered forcing beds, crop supports, etc.

9: Luke G-5 (ca. 1920-ca. 1960) 1960
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CHAPTER XVII

Casals and Countryside

OWING TO THE DENSITY AND RAPID GROWTH OF THE population, to the lack of soil and to the abundance of excellent building-stone, which not only takes on in the course of ages a beautiful patina but is easy to work, the proportion of Malta's built-up area to the area under cultivation is probably uniquely high. Unique is probably also the "Red Soil Law" whereby anyone about to erect a house is compelled to dig up and hand over to the Government (which removes it for him) any soil there may be on the site of the future structure, so that the precious earth may not be buried and lost for ever to the island's cultivators.

So precious is it that the smallest pockets, however inaccessibly they may be situated, are jealously conserved. Malta is low-lying—in the words of Tasso

giace Malta fra l'onde occulta, e bassa

—and only on the thyme-covered cliffs of the south-western stretch of coast does it rise as high as 800 feet. These cliffs are wild and rugged and sheer, but here and there, as they drop precipitously to the sea, narrow ledges of earth-covered rock cling precariously to their face. But even these *redums*, as they are termed—the like of which I have seen only on that hermit-inhabited spur of Mount Athos which is called Kerasia—are brought into use by the indomitable Maltese farmer of the locality, who sometimes lives in the caves beside them with his family and his animals as his Stone Age predecessor lived in them before him.

Thus every nook and cranny of these islands is eloquent of their past: towns; casals; little country chapels, farmhouses and isolated gateways, which are often adorned with

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6

some sculptured escutcheon; the old stone *fougasses*[1] to be encountered along the coast; even the very cliffs; even tiny Comino, from whose stony fields, where is cultivated the cumin seed from which the island takes its name, there rises one of the massive square keeps which the Knights scattered throughout their territory.[2]

The casals are, as has been said in an earlier chapter, not villages, but compact stone townships of tall houses and narrow streets, solidly built in good substantial Baroque architecture. Their outskirts, as likely as not, are dignified with some ancient country-house concealed behind high walls amid charming gardens—the beauty and seclusion of the Maltese gardens are justly proverbial—while the focus of the casal, both literally and metaphorically, is the parish church. This is generally a great Baroque pile of golden sandstone flanked by two massive towers, but an exception is the Parish Church of Mosta, built in the classical style in the middle of the nineteenth century mainly by the efforts, both technical and financial, of the villagers themselves to the design of the ingenious Maltese architect Grognet de Vassé mentioned in Chapter II. It is topped by a dome that claims to be the third largest in the world, being surpassed in size only by those of S. Sophia in Constantinople and S. Peter's in Rome, higher internally than the dome of the Roman Pantheon and exceeding by sixteen feet the diameter of that of S. Paul's in London.

[1] Patrick Brydone (*cf.* pp. 143–147) gives an interesting account of this little-known form of coastal defence; "For we found, to our no small amazement, that the rocks were not only cut into fortifications but likewise into artillery to defend these fortifications: being hollowed out in many places into the form of immense mortars. The charge is said to be about a barrel of gunpowder, over which they place a large piece of wood, made exactly to fit the mouth of the chamber. On this they heap a great quantity of cannon balls, shells, or other deadly materials; and when an enemy's ship approaches the harbour, they fire the whole into the air: and they pretend it produces a very great effect, making a shower for two or three hundred yards round that would sink any vessel."

[2] An excellent companion for the exploration of the island is F. Weston's *Walks in Malta*, published in Valetta. Later booklets include Showell Styles, *Walks and Climbs in Malta* (Valetta, 2nd edn., 1952), and H. H. Hick, *Walks in Gozo* (Malta, 1953).